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TestAmerica Laboratories, Inc.

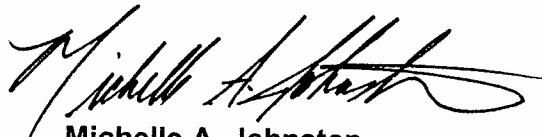
**ANALYTICAL REPORT**

**Perfluorocarbon (PFC) Analysis**

**Lot #: D0A150550**

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**February 11, 2010**

## **Case Narrative**

**D0A150550**

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. Dilution factors and footnotes are provided on each datasheet to assist in the interpretation of the results.

The results relate only to the samples in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have found to be compliant with laboratory protocols with any exceptions noted below.

Please note that Non-Detect (ND) results have been evaluated down to the Method Detection Limit (MDL) and should be considered ND at the MDL. Unless otherwise noted, results for solids have been dry weight corrected.

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### **Sample Arrival and Receipt**

The following report contains the analytical results for thirty-three samples received at TestAmerica Denver on January 15, 2010, according to documented sample acceptance procedures. The samples were received in good condition at temperatures of 4.5°C, 2.3°C, and 2.6°C. No anomalies were encountered during sample receipt.

### **Standards**

Analytical standards were prepared using commercially available certified solutions containing all compounds of interest.

The mass labeled compounds 13C4 PFBA, 13C2 PFHxA, 18O2 PFHxS, 13C4 PFOA, 13C4 PFOS, 13C5 PFNA, 13C2 PFDA, 13C2 PFUnA, 13C2 PFDoA, and D3 MeFOSA were introduced at the extraction step and were used for internal standards for the quantitation of the target compounds.

### **Sample Extraction and Analysis**

The samples presented in this report were extracted for the target analytes by TestAmerica Denver's Standard Operating Procedure (SOP) DV-OP-0019 and analyzed for the target analytes by TestAmerica Denver's SOP DV-LC-0012.

### **Method QC Samples**

The Method Blank is processed reagent water spiked with internal standard and prepared with each batch of 20 samples of the same matrix. The method blanks were non-detect at the reporting limits for the target analytes.

Each batch is prepared with low and mid level Laboratory Control Samples (LCS). The LCS recoveries for both levels were within established control limits, with the exception of the items noted in section Analytical Comments. The low-level LCS requirement changed on January 26, 2010.

### **Analytical Comments**

The Standard Operating Procedure (SOP) was altered slightly in the sample preparation for FOSA. Sodium hydroxide was added to all thirty-three samples to obtain a pH of >12 instead of the SOP required <2. The basic pH is generating better internal standard recoveries for MeFOSA.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high concentrations of target analytes, samples 17A M6A, 5 M7, 4 M8, 7 M9, 8 M12, 13 M13, 14 M14, 15 M17, 14A D5, 24 D1, 21 D2, 20 D3, 10 D4, 12 D6, 18 D9, 22 M1, 6 M2, 19 M4, 16 M5, 12A D7, 13A D8, 16B D12, 15B D13, 14B D14, 7A U2, 19A 83, 16A M15, and 15A M16 had to be analyzed at dilutions. The reporting limits have been adjusted relative to the dilutions required.

The organic preparation chemist had to use two cartridges to extract all of the sample volume for samples 14A D5, 10 D4, 12A D7, and 7A U2, due to the first cartridges clogging.

Due to low internal standards in the samples and/or high percent recoveries in the low-level LCS and/or mid-level LCS/LCSD, all thirty-three samples were re-extracted out of the laboratory prescribed hold time and reanalyzed in QC batches 0033180, 0032537, 0034123, and 0025463. All of the batches have been included in this report. There is no prescribed regulatory holding time requirement for PFCs. The scientific literature indicates PFCs are highly persistent compounds in the environment. TestAmerica Denver has conducted stability studies indicating medium- and low-level standard solutions of PFOA are stable for at least three months in glass, polystyrene, and polypropylene plastics at  $4\pm2$  °C. The 7-day/40-day and 14-day/40-day holding times listed above are based on the general EPA convention for the holding time of extractable organic compounds in water and soil. Please note the sample results should be considered estimated.

The internal standard recovery for 13C2 PFDA was recovered below 53% in samples 1 M10 and 3 M11. As the original internal standard recovery for sample 1 M10 was 53%, the re-extraction recovery of 47% confirms matrix interference. The laboratory believes the low internal standard recovery for sample 3 M11 is possibly due to higher concentrations of sediment in the sample as this is the third extraction.

The internal standard recovery for MeFOSA associated with QC batch 0018139 was recovered below 37% in sample 23 U1. No matrix effects were obvious that would explain the failures. Sample volume was consumed; therefore, re-extraction could not be performed.

The internal standard recovery for MeFOSA associated with QC batch 0018297 was recovered below 37% in sample 18 D9. Upon re-extraction and reanalysis in QC batch 0025463, the percent recovery outlier was still present, demonstrating this anomaly is most likely due to matrix interference. Both the original and reanalysis data have been provided, as re-extraction was unavoidably performed outside the recommended sample holding time.

The internal standard recoveries for 13C2 PFDA and/or 13C2 PFUnA associated with QC batch 0015368 were recovered below QC limits in samples 17 D11 and 9 M3. Upon re-extraction and reanalysis in QC batch 0033180, percent recovery outliers were still present, demonstrating this anomaly is most likely due to matrix interference. Both the original and reanalysis data have been provided, as re-extraction was unavoidably performed outside the recommended sample holding time.

The low-level LCS and mid-level LCS/LCSD associated with QC batch 0015368 exhibited percent recoveries outside the QC control limits for several compounds. This is an indicator that data may be biased high or low. Upon re-extraction and reanalysis, percent recoveries were 100% in control. Both sets of data have been provided, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time.

Due to a limitation in the LIMS system, the low-level LCS associated with QC batches 0015368, 0018141, and 0019142 reported the percent recoveries for several PFCs as 0.0%. These compounds were recovered within the control limits, as outlined below.

Compound	Low-Level LCS Actual Recovery	Control Limits	Low-Level LCS Actual Result	MDL
PFTriA	54%	44-164%	0.01074 ug/L	0.01772 ug/L
PFTeA	38%	47-172%	0.00768 ug/L	0.01456 ug/L
PFDS	45%	37-130%	0.00874 ug/L	0.00915 ug/L
PFTriA	80.7%	44-164%	0.0161 ug/L	0.01772 ug/L
PFTriA	56%	44-164%	0.0112 ug/L	0.01772 ug/L
PFTeA	48%	47-172%	0.0096 ug/L	0.01456 ug/L

As the compounds were detected below the Method Detection Limits (MDL), the system reports the percent recoveries as 0.0%.

The low-level LCS and mid-level LCS/LCSD associated with QC batch 0018141 exhibited percent recoveries outside the QC control limits for several compounds. This is an indicator that data may be biased high. Upon re-extraction and reanalysis, percent recoveries were 100% in control. Both sets of data have been provided, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time.

The low-level and mid-level LCS associated with QC batch 0019142 exhibited percent recoveries above the QC control limits for several compounds. This is an indicator that data may be biased high. Upon re-extraction and reanalysis, percent recoveries were 100% in control. Both sets of data have been provided, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time.

On January 26, 2010, the extraction Standard Operating Procedure (SOP) DV-OP-0019 was revised to remove the requirement for a low-level LCS. This means batches 0025463, 0032537, 0033180, and 0034123 only have a mid-level LCS or mid-level LCS/LCSD.

The method required MS/MSD could not be performed for QC batches 0015368, 0018139, 0018141, 0018297, 0025463, 0032537, and 0033180, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable low-level LCS and/or mid-level LCS/LCSD analyses data.

Percent recoveries and RPD data could not be calculated for the laboratory generated MS/MSD associated with QC batches 0019142 and 0034123, because the samples were diluted beyond the ability to quantitate recoveries. The acceptable low-level LCS and/or mid-level LCS analysis data indicated the analytical system was operating within control.

The Standard Operating Procedure (SOP) was altered slightly for these samples in the sample prep and LC conditions. The alterations are listed below.

Solvents are now the same as they were in the original SOP and run per the following gradient: From 0 to 11 minutes, the flow rate is 0.4 mL/minute and the MeOH ramps up from 25% to 100%. From 11 to 11.01 minutes, the flow rate increases to 0.7 mL/minute and this flow is diverted from the MS. At 13 minutes the flow rate decreases back down to 0.4 mL/minute and 25% MeOH. The column then equilibrates to 14 minutes.

PFTriA and PFTeA now use 13C2 PFUnA as their internal standard instead of 13C2 PFDoA.

No other anomalies were observed.

## EXECUTIVE SUMMARY - Detection Highlights

DOA150550

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
17A M6A 01/12/10 10:06 001				
Perfluoroheptanoic acid (PFHpA)	0.097 J	0.15	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.16	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.078 J	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.12	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.38	0.10	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.083 J	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.22	0.10	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.079 J	0.15	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.11 J	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.074 J	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.12	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.37	0.10	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.20	0.10	ug/L	DEN -LC-0012
5 M7 01/11/10 16:06 002				
Perfluoroheptanoic acid (PFHpA)	0.58	0.15	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.10 J	0.20	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.7	0.15	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.37	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.46	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.3	0.10	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.082 J	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.43	0.10	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.86	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.4	0.10	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.59	0.15	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.10 J	0.20	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.6	0.15	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.38	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.45	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.10	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.088 J	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.50	0.10	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.84	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.4	0.10	ug/L	DEN -LC-0012
4 M8 01/11/10 15:50 003				
Perfluoropentanoic acid (PFPA)	0.58 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.29 J	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.57	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	3.4	0.40	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>4 M8 01/11/10 15:50 003</b>				
Perfluoroctanoic Acid	0.51	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.52 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.31 J	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.63	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	4.2	0.40	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.51	0.40	ug/L	DEN -LC-0012
<b>7 M9 01/11/10 16:38 004</b>				
Perfluoroheptanoic acid (PFHpA	0.38 J	0.60	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	3.5	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH	0.14 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.0	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.7	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	0.27 J	0.40	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.37 J	0.40	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA	0.36 J	0.60	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	3.2	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.91	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.5	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	0.23 J	0.40	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.34 J	0.40	ug/L	DEN -LC-0012
<b>1 M10 01/11/10 15:10 005</b>				
Perfluoropentanoic acid (PFPA)	0.021 J	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.020	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.0088 J	0.020	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	0.025	0.020	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.048	0.030	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.018 J	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.020	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.011 J	0.020	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB	0.033	0.020	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.051	0.030	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F	0.015 J	0.050	ug/L	DEN -LC-0012
<b>3 M11 01/11/10 15:24 006</b>				
Perfluoroheptanoic acid (PFHpA	0.054	0.030	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.018 J	0.040	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.27	0.030	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH	0.013 J	0.030	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>3 M11 01/11/10 15:24 006</b>				
Perfluorobutanoic acid (PFBA)	0.12	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.27	0.020	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.056	0.020	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.039	0.030	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.11	0.020	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.059	0.030	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.026 J	0.040	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.24	0.030	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.016 J	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.12	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.27	0.020	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.012 J	0.020	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.075	0.020	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.052	0.030	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.12	0.020	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.013 J	0.050	ug/L	DEN -LC-0012
<b>8 M12 01/13/10 14:20 007</b>				
Perfluoroheptanoic acid (PFHpA)	0.83	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.29 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.1	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.40	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.66	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.3	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.078 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.3	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.1	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.8	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.59	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.21 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.5	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.30	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.49	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.96	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.0	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.87	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.3	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.022 J	0.050	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>13 M13 01/12/10 12:07 008</b>				
Perfluorheptanoic acid (PFHpA)	1.5	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.57	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	3.0	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	1.0	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.99	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.4	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.088 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	2.4	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.6	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	3.3	0.20	ug/L	DEN -LC-0012
Perfluorheptanoic acid (PFHpA)	1.2	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.44	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.4	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.89	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.75	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.1	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	2.2	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.5	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.8	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.029 J	0.050	ug/L	DEN -LC-0012
<b>14 M14 01/12/10 15:45 009</b>				
Perfluorheptanoic acid (PFHpA)	0.86	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.4	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.51	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.55	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.6	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.47	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.51	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.4	0.20	ug/L	DEN -LC-0012
Perfluorheptanoic acid (PFHpA)	0.66	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.8	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.38	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.42	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.36	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.37	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.1	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.0063 J	0.050	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
15 M17 01/12/10 15:06 010				
Perfluoroheptanoic acid (PFHpA) 1.2 J	1.5	ug/L	DEN -LC-0012	
Perfluorononanoic acid (PFNA) 0.99 J	2.0	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 1.8	1.5	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.96 J	1.0	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 1.4	1.0	ug/L	DEN -LC-0012	
Perfluorodecanoic acid (PFDA) 0.43 J	1.0	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 5.8	1.0	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	1.6	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.9	1.0	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA) 0.99 J	1.5	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 1.4 J	1.5	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.89 J	1.0	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 1.4	1.0	ug/L	DEN -LC-0012	
Perfluorodecanoic acid (PFDA) 0.40 J	1.0	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 6.1	1.0	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	1.6	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.7	1.0	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.11	0.050	ug/L	DEN -LC-0012
23 U1 01/11/10 14:41 011				
Perfluoroheptanoic acid (PFHpA) 0.015 J	0.030	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.045	0.030	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.031	0.020	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.030	0.020	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.032	0.020	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	0.019 J	0.030	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.028	0.020	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA) 0.013 J	0.030	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.036	0.030	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH)	0.0084 J	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA) 0.030	0.020	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.031	0.020	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.038	0.020	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	0.015 J	0.030	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.027	0.020	ug/L	DEN -LC-0012
14A D5 01/13/10 13:25 012				
Perfluoroheptanoic acid (PFHpA) 0.74	0.30	ug/L	DEN -LC-0012	
Perfluorononanoic acid (PFNA) 0.56	0.40	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 1.3	0.30	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH) 0.23 J	0.30	ug/L	DEN -LC-0012	

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>14A D5 01/13/10 13:25 012</b>				
Perfluorobutanoic acid (PFBA)	0.67	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.93	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.22	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	3.2	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.2	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.9	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.57	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.43	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.0	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.20 J	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.58	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.82	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.15 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	3.2	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.88	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.5	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.015 J	0.050	ug/L	DEN -LC-0012
<b>24 D1 01/11/10 14:54 013</b>				
Perfluoroheptanoic acid (PFHpA)	0.61	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.24 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.0	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.46	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.36	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.78	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.28	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.7	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	3.5	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.8	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.57	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.24 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.98	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.44	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.39	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.81	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.18 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.8	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	2.7	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.8	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.13	0.050	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
21 D2 01/11/10 14:15 014				
Perfluoroheptanoic acid (PFHpA) 0.33	0.15	ug/L	DEN -LC-0012	
Perfluorononanoic acid (PFNA) 0.16 J	0.20	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.75	0.15	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH) 0.20	0.15	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.28	0.10	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.53	0.10	ug/L	DEN -LC-0012	
Perfluorodecanoic acid (PFDA) 0.13	0.10	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.79	0.10	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	1.6	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.94	0.10	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA) 0.26	0.15	ug/L	DEN -LC-0012	
Perfluorononanoic acid (PFNA) 0.15 J	0.20	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.56	0.15	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH) 0.19	0.15	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.24	0.10	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.42	0.10	ug/L	DEN -LC-0012	
Perfluorodecanoic acid (PFDA) 0.094 J	0.10	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.77	0.10	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	1.4	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.75	0.10	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.089	0.050	ug/L	DEN -LC-0012
20 D3 01/11/10 16:47 015				
Perfluoroheptanoic acid (PFHpA) 0.12 J	0.15	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.55	0.15	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH) 0.046 J	0.15	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.28	0.10	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.29	0.10	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.30	0.10	ug/L	DEN -LC-0012	
Perfluoroctanesulfonate	0.087 J	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.18	0.10	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA) 0.11 J	0.15	ug/L	DEN -LC-0012	
Perfluoropentanoic acid (PFPA) 0.48	0.15	ug/L	DEN -LC-0012	
Perfluorohexane sulfonate (PFH) 0.045 J	0.15	ug/L	DEN -LC-0012	
Perfluorobutanoic acid (PFBA) 0.24	0.10	ug/L	DEN -LC-0012	
Perfluorohexanoic acid (PFHxA) 0.26	0.10	ug/L	DEN -LC-0012	
Perfluorobutane sulfonate (PFB) 0.33	0.10	ug/L	DEN -LC-0012	
Perfluoroctanoic Acid	0.17	0.10	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>10 D4 01/13/10 14:00 016</b>				
Perfluoroheptanoic acid (PFHpA)	1.4	0.60	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.46 J	0.80	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.3	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.94	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.83	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.9	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	4.5	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	2.6	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	3.1	0.40	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	1.2	0.60	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.41 J	0.80	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.8	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.84	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.71	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.7	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	4.6	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	2.2	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	3.0	0.40	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.012 J	0.050	ug/L	DEN -LC-0012
<b>12 D6 01/13/10 13:45 017</b>				
Perfluoroheptanoic acid (PFHpA)	0.79	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.43	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.7	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.33	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.60	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.14 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.6	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.5	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.7	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.67	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.35 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.3	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.30	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.49	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.0	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.14 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.5	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.2	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.5	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.098	0.050	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>18 D9 01/12/10 09:32 018</b>				
Perfluoroheptanoic acid (PFHpA)	0.91	0.60	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.36 J	0.80	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.6	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.43 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.72	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	4.1	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.9	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.0	0.40	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.86	0.60	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.4	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.43 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.69	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.1	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	4.4	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.6	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.0	0.40	ug/L	DEN -LC-0012
<b>22 M1 01/11/10 14:30 020</b>				
Perfluoroheptanoic acid (PFHpA)	0.37	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.46	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.39	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.15 J	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.45	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.39	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.6	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.3	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.38	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.46	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.50	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.18 J	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.48	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.53	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	2.1	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.5	0.20	ug/L	DEN -LC-0012
<b>6 M2 01/11/10 16:16 021</b>				
Perfluoropentanoic acid (PFPA)	1.8	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.1	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.29	0.20	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.7	0.30	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>6 M2 01/11/10 16:16 021</b>				
Perfluorobutanoic acid (PFBA)	1.0	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.29	0.20	ug/L	DEN -LC-0012
<b>9 M3 01/11/10 15:36 022</b>				
Perfluoroheptanoic acid (PFHpA)	0.017 J	0.030	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.15	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.056	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.058	0.020	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.018 J	0.030	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.16	0.030	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.053	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.058	0.020	ug/L	DEN -LC-0012
<b>19 M4 01/12/10 10:38 023</b>				
Perfluoroheptanoic acid (PFHpA)	0.91	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.20 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.8	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.77	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.42	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.4	0.20	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.12 J	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.54	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	3.0	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.1	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.67	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.3	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.58	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.36	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.1	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.38	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	2.2	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.6	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.037 J	0.050	ug/L	DEN -LC-0012
<b>16 M5 01/12/10 13:45 024</b>				
Perfluoroheptanoic acid (PFHpA)	0.81	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.27 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.2	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.71	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.44	0.20	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>16 M5 01/12/10 13:45 024</b>				
Perfluorohexanoic acid (PFHxA)	1.1	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	2.1	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.7	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.9	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.69	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.31 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.1	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.58	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.42	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.99	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.6	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	1.6	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.7	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.025 J	0.050	ug/L	DEN -LC-0012
<b>12A D7 01/12/10 11:46 025</b>				
Perfluoroheptanoic acid (PFHpA)	0.68	0.30	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.17 J	0.40	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.9	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.48	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.49	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.79	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.73	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.6	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.72	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.7	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.50	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.48	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.3	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.91	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.87	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.5	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.059	0.050	ug/L	DEN -LC-0012
<b>13A D8 01/12/10 11:25 026</b>				
Perfluoroheptanoic acid (PFHpA)	2.5	1.5	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	3.3	1.5	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	1.7	1.5	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.2	1.0	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.8	1.0	ug/L	DEN -LC-0012

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
13A D8 01/12/10 11:25 026				
Perfluorodecanoic acid (PFDA)	0.47 J	1.0	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	6.2	1.0	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	8.8	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	6.4	1.0	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	2.1	1.5	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.7	1.5	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	1.5	1.5	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.0	1.0	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.4	1.0	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.39 J	1.0	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	5.0	1.0	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	7.5	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	5.9	1.0	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.60	0.050	ug/L	DEN -LC-0012
16B D12 01/12/10 14:09 027				
Perfluoroheptanoic acid (PFHpA)	0.092 J	0.15	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.16	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.10	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.13	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.50	0.10	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.086 J	0.15	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.20	0.10	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.081 J	0.15	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.13 J	0.15	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.082 J	0.10	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.11	0.10	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.35	0.10	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.16	0.10	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.016 J	0.050	ug/L	DEN -LC-0012
15B D13 01/12/10 15:17 028				
Perfluoroheptanoic acid (PFHpA)	2.6	1.5	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	2.9	1.5	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	2.4	1.5	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.95 J	1.0	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.7	1.0	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.8	1.0	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	13	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	7.7	1.0	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	1.9	1.5	ug/L	DEN -LC-0012

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

DOA150550

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>15B D13 01/12/10 15:17 028</b>				
Perfluoropentanoic acid (PFPA)	2.3	1.5	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	2.0	1.5	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.70 J	1.0	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	2.2	1.0	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.4	1.0	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	9.9	1.5	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	6.3	1.0	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.12	0.050	ug/L	DEN -LC-0012
<b>14B D14 01/12/10 15:31 029</b>				
Perfluoroheptanoic acid (PFHpA)	0.44	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.1	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.27 J	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.41	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.69	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.1	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.64	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.96	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.51	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.96	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.32	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.63	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.77	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	1.4	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.77	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	1.1	0.20	ug/L	DEN -LC-0012
Perfluoroctane sulfonamide (F)	0.019 J	0.050	ug/L	DEN -LC-0012
<b>7A U2 01/11/10 16:29 030</b>				
Perfluoroheptanoic acid (PFHpA)	1.3	0.60	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	6.0	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.67	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.5	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	4.1	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.63	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.33 J	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.6	0.40	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.94	0.60	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	5.3	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.53 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	1.4	0.40	ug/L	DEN -LC-0012

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

DOA150550

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>7A U2 01/11/10 16:29 030</b>				
Perfluorohexanoic acid (PFHxA)	3.4	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.48	0.40	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	2.2	0.40	ug/L	DEN -LC-0012
<b>19A U3 01/12/10 09:09 031</b>				
Perfluorohexanoic acid (PFHxA)	0.22 J	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.43	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.17 J	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.13 J	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.32	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.27	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.17 J	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.35	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.19 J	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.38	0.30	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.16 J	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.13 J	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.33	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.23	0.20	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.14 J	0.30	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	0.32	0.20	ug/L	DEN -LC-0012
<b>16A M15 01/12/10 08:50 032</b>				
Perfluorohexanoic acid (PFHxA)	1.2	0.60	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.86	0.80	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.6	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.51 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.91	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.4	0.40	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.24 J	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	7.9	0.40	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	3.4	0.60	ug/L	DEN -LC-0012
Perfluoroctanoic Acid	3.1	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.1	0.60	ug/L	DEN -LC-0012
Perfluorononanoic acid (PFNA)	0.68 J	0.80	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	1.5	0.60	ug/L	DEN -LC-0012
Perfluorohexane sulfonate (PFH)	0.46 J	0.60	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.79	0.40	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	1.2	0.40	ug/L	DEN -LC-0012
Perfluorodecanoic acid (PFDA)	0.19 J	0.40	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	6.3	0.40	ug/L	DEN -LC-0012

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

DOA150550

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>16A M15 01/12/10 08:50 032</b>				
Perfluorooctanesulfonate	2.8	0.60	ug/L	DEN -LC-0012
Perfluorooctanoic Acid	2.7	0.40	ug/L	DEN -LC-0012
<b>15A M16 01/12/10 14:43 033</b>				
Perfluoroheptanoic acid (PFHpA)	0.20 J	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.47	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.24	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.39	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.88	0.20	ug/L	DEN -LC-0012
Perfluorooctanoic Acid	0.26	0.20	ug/L	DEN -LC-0012
Perfluoroheptanoic acid (PFHpA)	0.18 J	0.30	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.42	0.30	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.19 J	0.20	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.34	0.20	ug/L	DEN -LC-0012
Perfluorobutane sulfonate (PFB)	0.72	0.20	ug/L	DEN -LC-0012
Perfluorooctanoic Acid	0.24	0.20	ug/L	DEN -LC-0012

## METHODS SUMMARY

DOA150550

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
LC/MS/MS PFCs	DEN -LC-0012	SW846 FOSA spec

### References:

DEN TestAmerica Laboratores, Denver, Facility Standard Operating Procedure.

## METHOD / ANALYST SUMMARY

DOA150550

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
DEN -LC-0012	Teresa L. Williams	002510

### References:

DEN TestAmerica Laboratores, Denver, Facility Standard  
Operating Procedure.

## SAMPLE SUMMARY

DOA150550

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LR88E	001	17A M6A	01/12/10	10:06
LR88J	002	5 M7	01/11/10	16:06
LR88K	003	4 M8	01/11/10	15:50
LR88M	004	7 M9	01/11/10	16:38
LR88N	005	1 M10	01/11/10	15:10
LR88Q	006	3 M11	01/11/10	15:24
LR88R	007	8 M12	01/13/10	14:20
LR88T	008	13 M13	01/12/10	12:07
LR88X	009	14 M14	01/12/10	15:45
LR88O	010	15 M17	01/12/10	15:06
LR882	011	23 U1	01/11/10	14:41
LR884	012	14A D5	01/13/10	13:25
LR885	013	24 D1	01/11/10	14:54
LR886	014	21 D2	01/11/10	14:15
LR887	015	20 D3	01/11/10	16:47
LR888	016	10 D4	01/13/10	14:00
LR889	017	12 D6	01/13/10	13:45
LR89A	018	18 D9	01/12/10	09:32
LR89E	019	17 D11	01/12/10	14:
LR89H	020	22 M1	01/11/10	14:30
LR89J	021	6 M2	01/11/10	16:16
LR89K	022	9 M3	01/11/10	15:36
LR89L	023	19 M4	01/12/10	10:38
LR89M	024	16 M5	01/12/10	13:45
LR89N	025	12A D7	01/12/10	11:46
LR89P	026	13A D8	01/12/10	11:25
LR89Q	027	16B D12	01/12/10	14:09
LR89R	028	15B D13	01/12/10	15:17
LR89T	029	14B D14	01/12/10	15:31
LR89V	030	7A U2	01/11/10	16:29
LR89W	031	19A U3	01/12/10	09:09
LR890	032	16A M15	01/12/10	08:50
LR891	033	15A M16	01/12/10	14:43

(Continued on next page)

## SAMPLE SUMMARY

DOA150550

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

### NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

## Dalton Utilities

Client Sample ID: 17A M6A

## HPLC

Lot-Sample #....: D0A150550-001 Work Order #....: LR88E1AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 10:06 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 15:52  
 Dilution Factor: 5

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.097 J	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	ND	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT riA)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (PFTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	0.16	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xs)	ND	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.078 J	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	0.12	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	ND	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFBS)	0.38	0.10	ug/L	0.041
Perfluorooctanesulfonate	0.083 J	0.15	ug/L	0.067
Perfluorooctanoic Acid	0.22	0.10	ug/L	0.049

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	94	(60	- 155)
13C4 PFOS	88	(45	- 130)
13C4 PFBA	85	(36	- 130)
13C2 PFHxA	75	(55	- 135)
18O2 PFHxS	88	(61	- 130)
13C5 PFNA	89	(54	- 132)
13C2 PFDA	83	(53	- 130)
13C2 PFUnA	79	(37	- 130)
13C2 PFDoA	70	(26	- 130)

NOTE (S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 17A M6A

HPLC

Lot-Sample #....: D0A150550-001 Work Order #....: LR88E1AC Matrix.....: WATER  
Date Sampled....: 01/12/10 10:06 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:26  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
MeFOSA	91	(37 - 130)	

## Dalton Utilities

Client Sample ID: 17A M6A

## HPLC

Lot-Sample #....: D0A150550-001 Work Order #....: LR88E2AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 10:06 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/03/10  
 Prep Batch #....: 0033180 Analysis Time...: 23:04  
 Dilution Factor: 5

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.079 J	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	ND	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT riA)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (P FTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	0.11 J	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xs)	ND	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.074 J	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	0.12	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	ND	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFB S)	0.37	0.10	ug/L	0.041
Perfluorooctanesulfonate	ND	0.15	ug/L	0.067
Perfluorooctanoic Acid	0.20	0.10	ug/L	0.049

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>
		<u>LIMITS</u>
13C4 PFOA	126	(60 - 155)
13C4 PFOS	107	(45 - 130)
13C4 PFBA	109	(36 - 130)
13C2 PFHxA	116	(55 - 135)
18O2 PFHxS	110	(61 - 130)
13C5 PFNA	115	(54 - 132)
13C2 PFDA	106	(53 - 130)
13C2 PFUnA	103	(37 - 130)
13C2 PFDoA	107	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 5 M7

## HPLC

Lot-Sample #....: D0A150550-002 Work Order #....: LR88J1AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 16:06 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 16:07  
 Dilution Factor: 5

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.58	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	0.10 J	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT riA)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (P FTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	1.7	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xs)	0.37	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.46	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	1.3	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	0.082 J	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFB S)	0.43	0.10	ug/L	0.041
Perfluorooctanesulfonate	0.86	0.15	ug/L	0.067
Perfluorooctanoic Acid	1.4	0.10	ug/L	0.049

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	99	(60 - 155)
13C4 PFOS	97	(45 - 130)
13C4 PFBA	93	(36 - 130)
13C2 PFHxA	86	(55 - 135)
18O2 PFHxS	100	(61 - 130)
13C5 PFNA	101	(54 - 132)
13C2 PFDA	96	(53 - 130)
13C2 PFUnA	92	(37 - 130)
13C2 PFDoA	88	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 5 M7

HPLC

Lot-Sample #....: D0A150550-002 Work Order #....: LR88J1AC Matrix.....: WATER  
Date Sampled....: 01/11/10 16:06 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018139 Analysis Time...: 12:36  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	REPORTING		
	RESULT	LIMIT	UNITS
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
MeFOSA	38	(37 - 130)

## Dalton Utilities

Client Sample ID: 5 M7

## HPLC

Lot-Sample #....: DOA150550-002 Work Order #....: LR88J2AA  
 Date Sampled....: 01/11/10 16:06 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/03/10  
 Prep Batch #....: 0033180 Analysis Time...: 23:34  
 Dilution Factor: 5

Matrix.....: WATER

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.59	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	0.10 J	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT ria)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (P FTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	1.6	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xS)	0.38	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.45	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	1.2	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	0.088 J	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFB S)	0.50	0.10	ug/L	0.041
Perfluorooctanesulfonate	0.84	0.15	ug/L	0.067
Perfluorooctanoic Acid	1.4	0.10	ug/L	0.049

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	122	(60 - 155)
13C4 PFOS	112	(45 - 130)
13C4 PFBA	115	(36 - 130)
13C2 PFHxA	116	(55 - 135)
18O2 PFHxS	109	(61 - 130)
13C5 PFNA	111	(54 - 132)
13C2 PFDA	110	(53 - 130)
13C2 PFUnA	111	(37 - 130)
13C2 PFDoA	113	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 4 M8

## HPLC

Lot-Sample #....: DOA150550-003 Work Order #....: LR88K1AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:50 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 16:22  
 Dilution Factor: 20

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	ND	0.60	ug/L	0.26
Perfluorononanoic acid (PFNA)	ND	0.80	ug/L	0.35
Perfluorododecanoic acid (PFDo A)	ND	0.60	ug/L	0.30
Perfluorotridecanoic acid (PFT riA)	ND	0.80	ug/L	0.35
Perfluorotetradecanoic acid (P FTeA)	ND	0.60	ug/L	0.29
Perfluoropentanoic acid (PFPA)	0.58 J	0.60	ug/L	0.22
Perfluorohexane sulfonate (PFH xsS)	ND	0.60	ug/L	0.14
Perfluorobutanoic acid (PFBA)	0.29 J	0.40	ug/L	0.20
Perfluorohexanoic acid (PFHxA)	0.57	0.40	ug/L	0.058
Perfluorodecanoic acid (PFDA)	ND	0.40	ug/L	0.16
Perfluoroundecanoic acid (PFUn A)	ND	0.40	ug/L	0.14
Perfluorobutane sulfonate (PFB S)	3.4	0.40	ug/L	0.16
Perfluorooctanesulfonate	ND	0.60	ug/L	0.27
Perfluorooctanoic Acid	0.51	0.40	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	112	(60 - 155)
13C4 PFOS	113	(45 - 130)
13C4 PFBA	98	(36 - 130)
13C2 PFHxA	92	(55 - 135)
18O2 PFHxS	114	(61 - 130)
13C5 PFNA	112	(54 - 132)
13C2 PFDA	106	(53 - 130)
13C2 PFUnA	102	(37 - 130)
13C2 PFDoA	99	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 4 M8

HPLC

Lot-Sample #....: D0A150550-003 Work Order #....: LR88K1AC Matrix.....: WATER  
Date Sampled....: 01/11/10 15:50 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/21/10  
Prep Batch #....: 0018139 Analysis Time...: 10:52  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	40	(37 - 130)		

## Dalton Utilities

Client Sample ID: 4 M8

HPLC

Lot-Sample #....: D0A150550-003    Work Order #....: LR88K2AA    Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:50    Date Received...: 01/15/10  
 Prep Date.....: 02/02/10    Analysis Date...: 02/03/10  
 Prep Batch #....: 0033180    Analysis Time...: 23:49  
 Dilution Factor: 20

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	ND	0.60	ug/L	0.26
Perfluorononanoic acid (PFNA)	ND	0.80	ug/L	0.35
Perfluorododecanoic acid (PFDo A)	ND	0.60	ug/L	0.30
Perfluorotridecanoic acid (PFT ria)	ND	0.80	ug/L	0.35
Perfluorotetradecanoic acid (P FTeA)	ND	0.60	ug/L	0.29
Perfluoropentanoic acid (PFPA)	0.52 J	0.60	ug/L	0.22
Perfluorohexane sulfonate (PFH xS)	ND	0.60	ug/L	0.14
Perfluorobutanoic acid (PFBA)	0.31 J	0.40	ug/L	0.20
Perfluorohexanoic acid (PFHxA)	0.63	0.40	ug/L	0.058
Perfluorodecanoic acid (PFDA)	ND	0.40	ug/L	0.16
Perfluoroundecanoic acid (PFUn A)	ND	0.40	ug/L	0.14
Perfluorobutane sulfonate (PFB S)	4.2	0.40	ug/L	0.16
Perfluorooctanesulfonate	ND	0.60	ug/L	0.27
Perfluorooctanoic Acid	0.51	0.40	ug/L	0.20

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>
		<u>LIMITS</u>
13C4 PFOA	123	(60 - 155)
13C4 PFOS	115	(45 - 130)
13C4 PFBA	120	(36 - 130)
13C2 PFHxA	117	(55 - 135)
18O2 PFHxS	108	(61 - 130)
13C5 PFNA	114	(54 - 132)
13C2 PFDA	110	(53 - 130)
13C2 PFUnA	115	(37 - 130)
13C2 PFDoA	93	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 7 M9

## HPLC

Lot-Sample #....: D0A150550-004 Work Order #....: LR88M1AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 16:38 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/03/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:19  
 Dilution Factor: 20

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.38 J	0.60	ug/L	0.26
Perfluorononanoic acid (PFNA)	ND	0.80	ug/L	0.35
Perfluorododecanoic acid (PFDo A)	ND	0.60	ug/L	0.30
Perfluorotridecanoic acid (PFT riaA)	ND	0.80	ug/L	0.35
Perfluorotetradecanoic acid (P FTeA)	ND	0.60	ug/L	0.29
Perfluoropentanoic acid (PFPA)	3.5	0.60	ug/L	0.22
Perfluorohexane sulfonate (PFH xS)	0.14 J	0.60	ug/L	0.14
Perfluorobutanoic acid (PFBA)	1.0	0.40	ug/L	0.20
Perfluorohexanoic acid (PFHxA)	1.7	0.40	ug/L	0.058
Perfluorodecanoic acid (PFDA)	ND	0.40	ug/L	0.16
Perfluoroundecanoic acid (PFUn A)	ND	0.40	ug/L	0.14
Perfluorobutane sulfonate (PFB S)	0.27 J	0.40	ug/L	0.16
Perfluorooctanesulfonate	ND	0.60	ug/L	0.27
Perfluorooctanoic Acid	0.37 J	0.40	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	117	(60 - 155)
13C4 PFOS	110	(45 - 130)
13C4 PFBA	113	(36 - 130)
13C2 PFHxA	112	(55 - 135)
18O2 PFHxS	108	(61 - 130)
13C5 PFNA	113	(54 - 132)
13C2 PFDA	106	(53 - 130)
13C2 PFUnA	106	(37 - 130)
13C2 PFDoA	107	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 7 M9

HPLC

Lot-Sample #....: D0A150550-004 Work Order #....: LR88M1AC Matrix.....: WATER  
Date Sampled....: 01/11/10 16:38 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/21/10  
Prep Batch #....: 0018139 Analysis Time...: 10:57  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	40	(37 - 130)		

## Dalton Utilities

Client Sample ID: 7 M9

## HPLC

Lot-Sample #....: D0A150550-004 Work Order #....: LR88M2AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 16:38 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 00:04  
 Dilution Factor: 20

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.36 J	0.60	ug/L	0.26
Perfluorononanoic acid (PFNA)	ND	0.80	ug/L	0.35
Perfluorododecanoic acid (PFDo A)	ND	0.60	ug/L	0.30
Perfluorotridecanoic acid (PFT riA)	ND	0.80	ug/L	0.35
Perfluorotetradecanoic acid (PFTeA)	ND	0.60	ug/L	0.29
Perfluropentanoic acid (PFPA)	3.2	0.60	ug/L	0.22
Perfluorohexane sulfonate (PFH xs)	ND	0.60	ug/L	0.14
Perfluorobutanoic acid (PFBA)	0.91	0.40	ug/L	0.20
Perfluorohexanoic acid (PFHxA)	1.5	0.40	ug/L	0.058
Perfluorodecanoic acid (PFDA)	ND	0.40	ug/L	0.16
Perfluoroundecanoic acid (PFUn A)	ND	0.40	ug/L	0.14
Perfluorobutane sulfonate (PFB S)	0.23 J	0.40	ug/L	0.16
Perfluorooctanesulfonate	ND	0.60	ug/L	0.27
Perfluorooctanoic Acid	0.34 J	0.40	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	129	(60 - 155)
13C4 PFOS	122	(45 - 130)
13C4 PFBA	128	(36 - 130)
13C2 PFHxA	124	(55 - 135)
18O2 PFHxS	118	(61 - 130)
13C5 PFNA	125	(54 - 132)
13C2 PFDA	118	(53 - 130)
13C2 PFUnA	117	(37 - 130)
13C2 PFDoA	125	(26 - 130)

**NOTE (S) :**

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 1 M10

## HPLC

Lot-Sample #....: D0A150550-005 Work Order #....: LR88N1AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:10 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 17:07  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	ND	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	ND	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT ria)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.021 J	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xS)	ND	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.020	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.0088 J	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.025	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.048	0.030	ug/L	0.013
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	97	(60	- 155)
13C4 PFOS	63	(45	- 130)
13C4 PFBA	96	(36	- 130)
13C2 PFHxA	88	(55	- 135)
18O2 PFHxS	103	(61	- 130)
13C5 PFNA	82	(54	- 132)
13C2 PFDA	53	(53	- 130)
13C2 PFUnA	41	(37	- 130)
13C2 PFDoA	38	(26	- 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 1 M10

HPLC

Lot-Sample #....: D0A150550-005 Work Order #....: LR88N1AC Matrix.....: WATER  
Date Sampled....: 01/11/10 15:10 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018139 Analysis Time...: 12:56  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.015 J	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(	)
MeFOSA	38	(37	- 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 1 M10

## HPLC

Lot-Sample #....: D0A150550-005 Work Order #....: LR88N2AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:10 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 00:19  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	ND	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	ND	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT ria)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.018 J	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xS)	ND	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.020	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.011 J	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.033	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.051	0.030	ug/L	0.013
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0098

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	96	(60	- 155)
13C4 PFOS	50	(45	- 130)
13C4 PFBA	99	(36	- 130)
13C2 PFHxA	101	(55	- 135)
18O2 PFHxS	86	(61	- 130)
13C5 PFNA	64	(54	- 132)
13C2 PFDA	47 *	(53	- 130)
13C2 PFUnA	47	(37	- 130)
13C2 PFDoA	50	(26	- 130)

NOTE (S) :

\* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 3 M11

## HPLC

Lot-Sample #....: DOA150550-006 Work Order #....: LR88Q1AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:24 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 17:22  
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.054	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	0.018 J	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT ria)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.27	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xs)	0.013 J	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.12	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.27	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.056	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.039	0.030	ug/L	0.013
Perfluorooctanoic Acid	0.11	0.020	ug/L	0.0098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	101	(60 - 155)
13C4 PFOS	96	(45 - 130)
13C4 PFBA	93	(36 - 130)
13C2 PFHxA	88	(55 - 135)
18O2 PFHxS	104	(61 - 130)
13C5 PFNA	102	(54 - 132)
13C2 PFDA	86	(53 - 130)
13C2 PFUnA	61	(37 - 130)
13C2 PFDoA	43	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 3 M11

HPLC

Lot-Sample #....: D0A150550-006 Work Order #....: LR88Q1AC Matrix.....: WATER  
Date Sampled....: 01/11/10 15:24 Date Received..: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date..: 01/20/10  
Prep Batch #....: 0018139 Analysis Time..: 13:01  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.013 J	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	71	(37 - 130)		

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 3 M11

## HPLC

Lot-Sample #....: D0A150550-006 Work Order #....: LR88Q2AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 15:24 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 00:34  
 Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.059	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	0.026 J	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT riA)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.24	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xS)	0.016 J	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.12	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.27	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	0.012 J	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.075	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.052	0.030	ug/L	0.013
Perfluorooctanoic Acid	0.12	0.020	ug/L	0.0098

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C4 PFOA	95	(60 - 155)
13C4 PFOS	49	(45 - 130)
13C4 PFBA	98	(36 - 130)
13C2 PFHxA	103	(55 - 135)
18O2 PFHxS	84	(61 - 130)
13C5 PFNA	70	(54 - 132)
13C2 PFDA	45 *	(53 - 130)
13C2 PFUnA	43	(37 - 130)
13C2 PFDoA	46	(26 - 130)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 8 M12

## HPLC

Lot-Sample #....: D0A150550-007 Work Order #....: LR88R1AA Matrix.....: WATER  
 Date Sampled....: 01/13/10 14:20 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 17:37  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.83	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.29 J	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	2.1	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xS)	0.40	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.66	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	1.3	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.078 J	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	1.3	0.20	ug/L	0.082
Perfluorooctanesulfonate	1.1	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.8	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY
		LIMITS
13C4 PFOA	113	(60 - 155)
13C4 PFOS	119	(45 - 130)
13C4 PFBA	107	(36 - 130)
13C2 PFHxA	101	(55 - 135)
18O2 PFHxS	120	(61 - 130)
13C5 PFNA	112	(54 - 132)
13C2 PFDA	111	(53 - 130)
13C2 PFUnA	110	(37 - 130)
13C2 PFDoA	105	(26 - 130)

**NOTE(S) :**

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 8 M12

HPLC

Lot-Sample #....: D0A150550-007 Work Order #....: LR88R1AC Matrix.....: WATER  
Date Sampled....: 01/13/10 14:20 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:31  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.022 J	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(	)
MeFOSA	70	(37	- 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 8 M12

## HPLC

Lot-Sample #....: D0A150550-007 Work Order #....: LR88R2AA Matrix.....: WATER  
 Date Sampled....: 01/13/10 14:20 Date Received...: 01/15/10  
 Prep Date.....: 02/01/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0032537 Analysis Time...: 21:52  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.59	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.21 J	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	1.5	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xs)	0.30	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.49	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	0.96	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	ND	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	1.0	0.20	ug/L	0.082
Perfluorooctanesulfonate	0.87	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.3	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	130	(60	- 155)
13C4 PFOS	125	(45	- 130)
13C4 PFBA	124	(36	- 130)
13C2 PFHxA	117	(55	- 135)
18O2 PFHxS	130	(61	- 130)
13C5 PFNA	124	(54	- 132)
13C2 PFDA	126	(53	- 130)
13C2 PFUnA	125	(37	- 130)
13C2 PFDoA	118	(26	- 130)

## NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 13 M13

## HPLC

Lot-Sample #....: DOA150550-008 Work Order #....: LR88T1AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 12:07 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 17:52  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	1.5	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.57	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (PFTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	3.0	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xs)	1.0	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.99	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	2.4	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.088 J	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	2.4	0.20	ug/L	0.082
Perfluorooctanesulfonate	1.6	0.30	ug/L	0.13
Perfluorooctanoic Acid	3.3	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	119	(60 - 155)
13C4 PFOS	124	(45 - 130)
13C4 PFBA	114	(36 - 130)
13C2 PFHxA	106	(55 - 135)
18O2 PFHxS	124	(61 - 130)
13C5 PFNA	120	(54 - 132)
13C2 PFDA	120	(53 - 130)
13C2 PFUnA	119	(37 - 130)
13C2 PFDoA	110	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 13 M13

HPLC

Lot-Sample #....: DOA150550-008 Work Order #....: LR88T1AC Matrix.....: WATER  
Date Sampled....: 01/12/10 12:07 Date Received..: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:36  
Dilution Factor: 1

Method.....: DEN -LC-0012

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.029 J	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	71	(37 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 13 M13

## HPLC

Lot-Sample #....: D0A150550-008 Work Order #....: LR88T2AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 12:07 Date Received...: 01/15/10  
 Prep Date.....: 02/01/10 Analysis Date...: 02/05/10  
 Prep Batch #....: 0032537 Analysis Time...: 13:33  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	1.2	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.44	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT ria)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	2.4	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xS)	0.89	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.75	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	2.1	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	ND	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFS S)	2.2	0.20	ug/L	0.082
Perfluorooctanesulfonate	1.5	0.30	ug/L	0.13
Perfluorooctanoic Acid	2.8	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	105	(60 - 155)
13C4 PFOS	106	(45 - 130)
13C4 PFBA	110	(36 - 130)
13C2 PFHxA	98	(55 - 135)
18O2 PFHxS	101	(61 - 130)
13C5 PFNA	112	(54 - 132)
13C2 PFDA	109	(53 - 130)
13C2 PFUnA	110	(37 - 130)
13C2 PFDoA	112	(26 - 130)

## Dalton Utilities

Client Sample ID: 14 M14

## HPLC

Lot-Sample #....: D0A150550-009 Work Order #....: LR88X1AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 15:45 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:07  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorohexanoic acid (PFHpA )	0.86	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	ND	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (PFTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	2.4	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xS)	0.51	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.55	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	1.6	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	ND	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	0.47	0.20	ug/L	0.082
Perfluorooctanesulfonate	0.51	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.4	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	123	(60 - 155)
13C4 PFOS	128	(45 - 130)
13C4 PFBA	114	(36 - 130)
13C2 PFHxA	106	(55 - 135)
18O2 PFHxS	124	(61 - 130)
13C5 PFNA	122	(54 - 132)
13C2 PFDA	118	(53 - 130)
13C2 PFUnA	113	(37 - 130)
13C2 PFDoA	110	(26 - 130)

Dalton Utilities

Client Sample ID: 14 M14

HPLC

Lot-Sample #....: DOA150550-009 Work Order #....: LR88X1AC Matrix.....: WATER  
Date Sampled....: 01/12/10 15:45 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:41  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.0063 J	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(	)
MeFOSA	68	(37	- 130)

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 14 M14

## HPLC

Lot-Sample #....: D0A150550-009 Work Order #....: LR88X2AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 15:45 Date Received...: 01/15/10  
 Prep Date.....: 02/01/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0032537 Analysis Time...: 22:37  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.66	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	ND	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	1.8	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xs)	0.38	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.42	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	1.2	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	ND	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	0.36	0.20	ug/L	0.082
Perfluorooctanesulfonate	0.37	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.1	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	110	(60 - 155)
13C4 PFOS	114	(45 - 130)
13C4 PFBA	112	(36 - 130)
13C2 PFHxA	100	(55 - 135)
18O2 PFHxS	112	(61 - 130)
13C5 PFNA	114	(54 - 132)
13C2 PFDA	106	(53 - 130)
13C2 PFUnA	109	(37 - 130)
13C2 PFDoA	107	(26 - 130)

## Dalton Utilities

Client Sample ID: 15 M17

## HPLC

Lot-Sample #....: D0A150550-010 Work Order #....: LR8801AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 15:06 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:22  
 Dilution Factor: 50

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	1.2 J	1.5	ug/L	0.66
Perfluorononanoic acid (PFNA)	0.99 J	2.0	ug/L	0.87
Perfluorododecanoic acid (PFDo A)	ND	1.5	ug/L	0.75
Perfluorotridecanoic acid (PFT ria)	ND	2.0	ug/L	0.89
Perfluorotetradecanoic acid (P FTeA)	ND	1.5	ug/L	0.73
Perfluoropentanoic acid (PFPA)	1.8	1.5	ug/L	0.55
Perfluorohexane sulfonate (PFH xS)	ND	1.5	ug/L	0.35
Perfluorobutanoic acid (PFBA)	0.96 J	1.0	ug/L	0.49
Perfluorohexanoic acid (PFHxA)	1.4	1.0	ug/L	0.15
Perfluorodecanoic acid (PFDA)	0.43 J	1.0	ug/L	0.39
Perfluoroundecanoic acid (PFUn A)	ND	1.0	ug/L	0.34
Perfluorobutane sulfonate (PFB S)	5.8	1.0	ug/L	0.41
Perfluorooctanesulfonate	1.6	1.5	ug/L	0.67
Perfluorooctanoic Acid	2.9	1.0	ug/L	0.49

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	112	(60 - 155)
13C4 PFOS	127	(45 - 130)
13C4 PFBA	79	(36 - 130)
13C2 PFHxA	101	(55 - 135)
18O2 PFHxS	118	(61 - 130)
13C5 PFNA	116	(54 - 132)
13C2 PFDA	113	(53 - 130)
13C2 PFUnA	115	(37 - 130)
13C2 PFDoA	110	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 15 M17

HPLC

Lot-Sample #....: D0A150550-010 Work Order #....: LR8801AC Matrix.....: WATER  
Date Sampled....: 01/12/10 15:06 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:46  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.11	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY		RECOVERY LIMITS
	71		(37 - 130)
MeFOSA			

## Dalton Utilities

Client Sample ID: 15 M17

HPLC

Lot-Sample #....: D0A150550-010 Work Order #....: LR8802AA Matrix.....: WATER  
 Date Sampled....: 01/12/10 15:06 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 00:49  
 Dilution Factor: 50

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.99 J	1.5	ug/L	0.66
Perfluorononanoic acid (PFNA)	ND	2.0	ug/L	0.87
Perfluorododecanoic acid (PFDo A)	ND	1.5	ug/L	0.75
Perfluorotridecanoic acid (PFT riaA)	ND	2.0	ug/L	0.89
Perfluorotetradecanoic acid (P FTeA)	ND	1.5	ug/L	0.73
Perfluoropentanoic acid (PFPA)	1.4 J	1.5	ug/L	0.55
Perfluorohexane sulfonate (PFH xS)	ND	1.5	ug/L	0.35
Perfluorobutanoic acid (PFBA)	0.89 J	1.0	ug/L	0.49
Perfluorohexanoic acid (PFHxA)	1.4	1.0	ug/L	0.15
Perfluorodecanoic acid (PFDA)	0.40 J	1.0	ug/L	0.39
Perfluoroundecanoic acid (PFUn A)	ND	1.0	ug/L	0.34
Perfluorobutane sulfonate (PFB S)	6.1	1.0	ug/L	0.41
Perfluorooctanesulfonate	1.6	1.5	ug/L	0.67
Perfluorooctanoic Acid	2.7	1.0	ug/L	0.49

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	129	(60 - 155)
13C4 PFOS	117	(45 - 130)
13C4 PFBA	122	(36 - 130)
13C2 PFHxA	122	(55 - 135)
18O2 PFHxS	112	(61 - 130)
13C5 PFNA	119	(54 - 132)
13C2 PFDA	115	(53 - 130)
13C2 PFUnA	117	(37 - 130)
13C2 PFDoA	121	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 23 UI

## HPLC

Lot-Sample #....: D0A150550-011 Work Order #....: LR8821AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:41 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:37  
 Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.015 J	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	ND	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT ria)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.045	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xS)	ND	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.031	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.030	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.032	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.019 J	0.030	ug/L	0.013
Perfluorooctanoic Acid	0.028	0.020	ug/L	0.0098

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>
		<u>LIMITS</u>
13C4 PFOA	117	(60 - 155)
13C4 PFOS	78	(45 - 130)
13C4 PFBA	112	(36 - 130)
13C2 PFHxA	106	(55 - 135)
18O2 PFHxS	119	(61 - 130)
13C5 PFNA	94	(54 - 132)
13C2 PFDA	66	(53 - 130)
13C2 PFUnA	61	(37 - 130)
13C2 PFDoA	60	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 23 U1

HPLC

Lot-Sample #....: D0A150550-011 Work Order #....: LR8821AC Matrix.....: WATER  
Date Sampled....: 01/11/10 14:41 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/21/10  
Prep Batch #....: 0018139 Analysis Time...: 11:02  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(37	- 130)
MeFOSA	32 *		

NOTE(S) :

\* Surrogate recovery is outside stated control limits.

## Dalton Utilities

Client Sample ID: 23 UI

## HPLC

Lot-Sample #....: D0A150550-011 Work Order #....: LR8822AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:41 Date Received..: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date..: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time..: 01:04  
 Dilution Factor: 1

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.013 J	0.030	ug/L	0.013
Perfluorononanoic acid (PFNA)	ND	0.040	ug/L	0.017
Perfluorododecanoic acid (PFDo A)	ND	0.030	ug/L	0.015
Perfluorotridecanoic acid (PFT riA)	ND	0.040	ug/L	0.018
Perfluorotetradecanoic acid (P FTeA)	ND	0.030	ug/L	0.015
Perfluoropentanoic acid (PFPA)	0.036	0.030	ug/L	0.011
Perfluorohexane sulfonate (PFH xsS)	0.0084 J	0.030	ug/L	0.0070
Perfluorobutanoic acid (PFBA)	0.030	0.020	ug/L	0.0098
Perfluorohexanoic acid (PFHxA)	0.031	0.020	ug/L	0.0029
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0078
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0069
Perfluorobutane sulfonate (PFB S)	0.038	0.020	ug/L	0.0082
Perfluorooctanesulfonate	0.015 J	0.030	ug/L	0.013
Perfluorooctanoic Acid	0.027	0.020	ug/L	0.0098

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>
		<u>LIMITS</u>
13C4 PFOA	109	(60 - 155)
13C4 PFOS	59	(45 - 130)
13C4 PFBA	98	(36 - 130)
13C2 PFHxA	107	(55 - 135)
18O2 PFHxS	92	(61 - 130)
13C5 PFNA	80	(54 - 132)
13C2 PFDA	58	(53 - 130)
13C2 PFUnA	50	(37 - 130)
13C2 PFDoA	55	(26 - 130)

## NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 14A D5

HPLC

Lot-Sample #....: D0A150550-012 Work Order #....: LR8841AA Matrix.....: WATER  
 Date Sampled....: 01/13/10 13:25 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:52  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.74	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.56	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riaA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	1.3	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xs)	0.23 J	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.67	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	0.93	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.22	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	3.2	0.20	ug/L	0.082
Perfluorooctanesulfonate	1.2	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.9	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	112	(60 - 155)
13C4 PFOS	120	(45 - 130)
13C4 PFBA	107	(36 - 130)
13C2 PFHxA	103	(55 - 135)
18O2 PFHxS	115	(61 - 130)
13C5 PFNA	117	(54 - 132)
13C2 PFDA	109	(53 - 130)
13C2 PFUnA	113	(37 - 130)
13C2 PFDoA	109	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 14A D5

HPLC

Lot-Sample #....: D0A150550-012 Work Order #....: LR8841AC Matrix.....: WATER  
Date Sampled....: 01/13/10 13:25 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018297 Analysis Time...: 10:51  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING
Perfluorooctane sulfonamide (F OSA)	0.015 J	LIMIT      UNITS      MDL
		0.050 ug/L 0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
MeFOSA	54	(37 - 130)

**NOTE (S) :**

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 14A D5

## HPLC

Lot-Sample #....: D0A150550-012 Work Order #....: LR8842AA Matrix.....: WATER  
 Date Sampled....: 01/13/10 13:25 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 01:19  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA)	0.57	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.43	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (PFTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	1.0	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xS)	0.20 J	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.58	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	0.82	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.15 J	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	3.2	0.20	ug/L	0.082
Perfluorooctanesulfonate	0.88	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.5	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	122	(60 - 155)
13C4 PFOS	102	(45 - 130)
13C4 PFBA	113	(36 - 130)
13C2 PFHxA	118	(55 - 135)
18O2 PFHxS	104	(61 - 130)
13C5 PFNA	106	(54 - 132)
13C2 PFDA	105	(53 - 130)
13C2 PFUnA	110	(37 - 130)
13C2 PFDoA	107	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 24 D1

HPLC

Lot-Sample #....: D0A150550-013 Work Order #....: LR8851AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:54 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/03/10  
 Prep Batch #....: 0015368 Analysis Time...: 18:34  
 Dilution Factor: 10

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluorheptanoic acid (PFHpA)	0.61	0.30	ug/L	0.13
)				
Perfluorononanoic acid (PFNA)	0.24 J	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo	ND	0.30	ug/L	0.15
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (PFTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	1.0	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFHxS)	0.46	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.36	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	0.78	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.28	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUnA)	ND	0.20	ug/L	0.069
A)				
Perfluorobutane sulfonate (PFBxS)	1.7	0.20	ug/L	0.082
Perfluoroctanesulfonate	3.5	0.30	ug/L	0.13
Perfluoroctanoic Acid	1.8	0.20	ug/L	0.098

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	117	(60 - 155)
13C4 PFOS	112	(45 - 130)
13C4 PFBA	116	(36 - 130)
13C2 PFHxA	110	(55 - 135)
18O2 PFHxS	108	(61 - 130)
13C5 PFNA	110	(54 - 132)
13C2 PFDA	109	(53 - 130)
13C2 PFUnA	114	(37 - 130)
13C2 PFDoA	114	(26 - 130)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 24 D1

HPLC

Lot-Sample #....: DOA150550-013 Work Order #....: LR8851AC Matrix.....: WATER  
Date Sampled....: 01/11/10 14:54 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018139 Analysis Time...: 13:11  
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.13	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(	)
MeFOSA	44	(37	- 130)

## Dalton Utilities

Client Sample ID: 24 D1

## HPLC

Lot-Sample #....: D0A150550-013 Work Order #....: LR8852AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:54 Date Received...: 01/15/10  
 Prep Date.....: 02/02/10 Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180 Analysis Time...: 01:34  
 Dilution Factor: 10

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.57	0.30	ug/L	0.13
Perfluorononanoic acid (PFNA)	0.24 J	0.40	ug/L	0.17
Perfluorododecanoic acid (PFDo A)	ND	0.30	ug/L	0.15
Perfluorotridecanoic acid (PFT riA)	ND	0.40	ug/L	0.18
Perfluorotetradecanoic acid (P FTeA)	ND	0.30	ug/L	0.15
Perfluoropentanoic acid (PFPA)	0.98	0.30	ug/L	0.11
Perfluorohexane sulfonate (PFH xs)	0.44	0.30	ug/L	0.070
Perfluorobutanoic acid (PFBA)	0.39	0.20	ug/L	0.098
Perfluorohexanoic acid (PFHxA)	0.81	0.20	ug/L	0.029
Perfluorodecanoic acid (PFDA)	0.18 J	0.20	ug/L	0.078
Perfluoroundecanoic acid (PFUn A)	ND	0.20	ug/L	0.069
Perfluorobutane sulfonate (PFB S)	1.8	0.20	ug/L	0.082
Perfluorooctanesulfonate	2.7	0.30	ug/L	0.13
Perfluorooctanoic Acid	1.8	0.20	ug/L	0.098

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C4 PFOA	119	(60 - 155)
13C4 PFOS	110	(45 - 130)
13C4 PFBA	114	(36 - 130)
13C2 PFHxA	117	(55 - 135)
18O2 PFHxS	107	(61 - 130)
13C5 PFNA	111	(54 - 132)
13C2 PFDA	106	(53 - 130)
13C2 PFUnA	109	(37 - 130)
13C2 PFDoA	113	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## Dalton Utilities

Client Sample ID: 21 D2

## HPLC

Lot-Sample #....: D0A150550-014 Work Order #....: LR8861AA Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:15 Date Received...: 01/15/10  
 Prep Date.....: 01/15/10 Analysis Date...: 02/02/10  
 Prep Batch #....: 0015368 Analysis Time...: 19:22  
 Dilution Factor: 5

Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluoroheptanoic acid (PFHpA )	0.33	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	0.16 J	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT ria)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (P FTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	0.75	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xS)	0.20	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.28	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	0.53	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	0.13	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFB S)	0.79	0.10	ug/L	0.041
Perfluorooctanesulfonate	1.6	0.15	ug/L	0.067
Perfluorooctanoic Acid	0.94	0.10	ug/L	0.049

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C4 PFOA	92	(60 - 155)
13C4 PFOS	93	(45 - 130)
13C4 PFBA	90	(36 - 130)
13C2 PFHxA	80	(55 - 135)
18O2 PFHxS	92	(61 - 130)
13C5 PFNA	91	(54 - 132)
13C2 PFDA	87	(53 - 130)
13C2 PFUnA	85	(37 - 130)
13C2 PFDoA	81	(26 - 130)

**NOTE (S) :**

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: 21 D2

HPLC

Lot-Sample #....: D0A150550-014 Work Order #....: LR8861AC  
Date Sampled....: 01/11/10 14:15 Date Received...: 01/15/10  
Prep Date.....: 01/18/10 Analysis Date...: 01/20/10  
Prep Batch #....: 0018139 Analysis Time...: 13:16  
Dilution Factor: 1

Matrix.....: WATER

Method.....: DEN -LC-0012

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	0.089	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	42	(37 - 130)		

## Dalton Utilities

Client Sample ID: 21 D2

## HPLC

Lot-Sample #....: DOA150550-014    Work Order #....: LR8862AA    Matrix.....: WATER  
 Date Sampled....: 01/11/10 14:15    Date Received...: 01/15/10  
 Prep Date.....: 02/02/10    Analysis Date...: 02/04/10  
 Prep Batch #....: 0033180    Analysis Time...: 01:49  
 Dilution Factor: 5

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Perfluoroheptanoic acid (PFHpA )	0.26	0.15	ug/L	0.066
Perfluorononanoic acid (PFNA)	0.15 J	0.20	ug/L	0.087
Perfluorododecanoic acid (PFDo A)	ND	0.15	ug/L	0.075
Perfluorotridecanoic acid (PFT riA)	ND	0.20	ug/L	0.089
Perfluorotetradecanoic acid (PFTeA)	ND	0.15	ug/L	0.073
Perfluoropentanoic acid (PFPA)	0.56	0.15	ug/L	0.055
Perfluorohexane sulfonate (PFH xs)	0.19	0.15	ug/L	0.035
Perfluorobutanoic acid (PFBA)	0.24	0.10	ug/L	0.049
Perfluorohexanoic acid (PFHxA)	0.42	0.10	ug/L	0.015
Perfluorodecanoic acid (PFDA)	0.094 J	0.10	ug/L	0.039
Perfluoroundecanoic acid (PFUn A)	ND	0.10	ug/L	0.034
Perfluorobutane sulfonate (PFB S)	0.77	0.10	ug/L	0.041
Perfluorooctanesulfonate	1.4	0.15	ug/L	0.067
Perfluorooctanoic Acid	0.75	0.10	ug/L	0.049

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	131	(60 - 155)
13C4 PFOS	104	(45 - 130)
13C4 PFBA	115	(36 - 130)
13C2 PFHxA	120	(55 - 135)
18O2 PFHxS	109	(61 - 130)
13C5 PFNA	109	(54 - 132)
13C2 PFDA	103	(53 - 130)
13C2 PFUnA	104	(37 - 130)
13C2 PFDoA	107	(26 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.